

IMAGE

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JOURNAL OF PHOTOGRAPHY AND MOTION PICTURES
OF THE GEORGE EASTMAN HOUSE



NINETEENTH CENTURY ARCHITECTURAL PHOTOGRAPHS

A survey of approaches and techniques

by Gerda Peterich

COLEMAN SELLERS

"the most energetic amateur of his day"

by Charles Coleman Sellers

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EDITORIAL

IMAGE FOR 1959

We are proud to announce that IMAGE will appear quarterly in an expanded form beginning January, 1959. The content and editorial policy of the magazine will remain unchanged, but its scope and, we believe, its quality will be increased with the new format.

At the commencement of the eighth year of publication, it is gratifying to note that our magazine has met with the favor of the public. An unusual number of lead articles have been reprinted, not only in the American press, but in foreign translation. The essays thus honored have, for the most part, presented hitherto unpublished material in The George Eastman House, thus bringing our collection to the attention of a wide public. We are confident that the increase in the number of pages of each issue of IMAGE, by giving our authors greater scope, and by allowing the use of more illustrations, will result in an improved magazine.

We plan to present portfolios of fine reproductions of outstanding photographs, not only for their beauty or historical interest, but also to serve as a corpus of material for critics, students, and photographers. Many great photographs of the past are threatened with destruction through the natural process of deterioration; their reproduction, therefore, will serve as a means of conservation.

The two main activities of The George Eastman House—photography and cinematography—will continue to share, in equal balance, our editorial attention. We will expand the series of explorations of the early days of the motion picture to which the veterans of the industry have so willingly and copiously contributed, and we shall present the fruits of research undertaken by our staff in sifting the vast collections of motion picture films, stills and documents which have come our way.

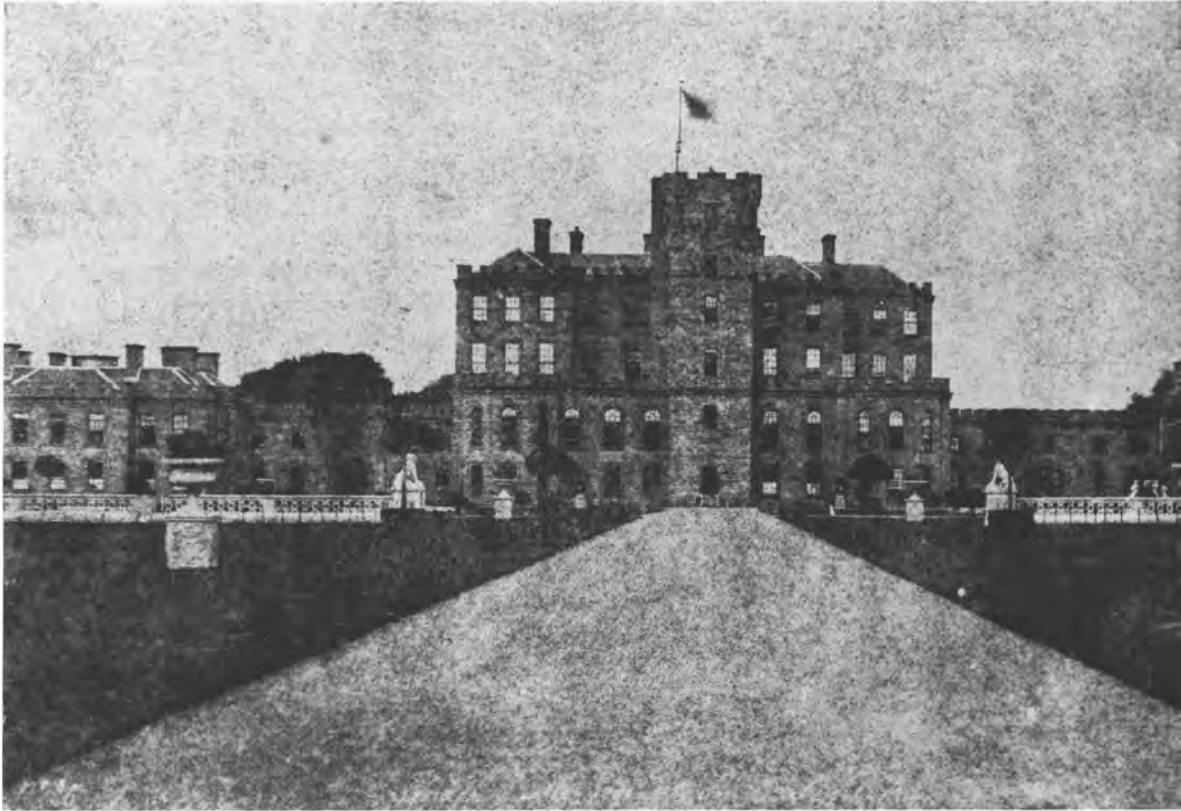
We are proud that contributors both at home and abroad continue to supply us with unusual articles and photographs; these will be featured in forthcoming issues of the quarterly.

The new, enlarged IMAGE will appear in January, April, July and October.

Beaumont Newhall

Nineteenth Century

by Gerda Peterich

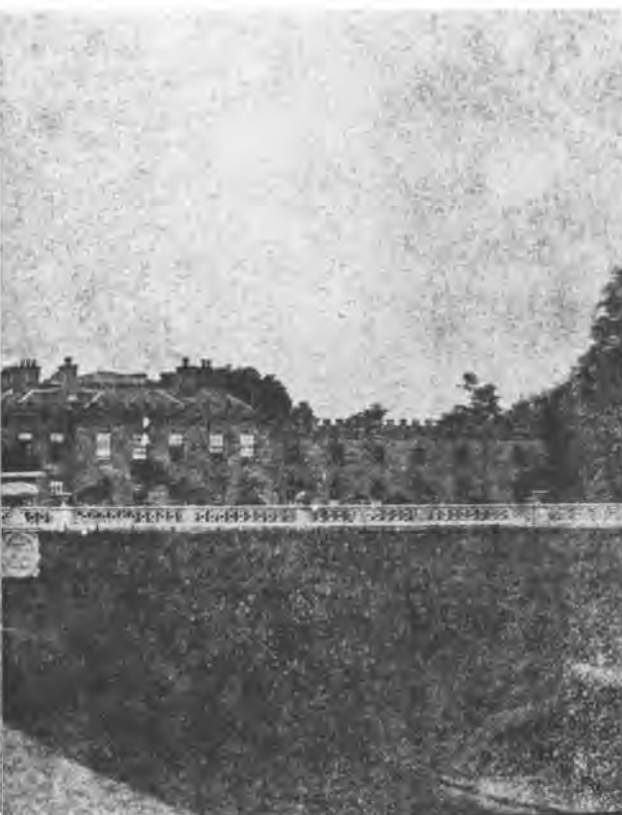


Three schools of architectural photography evolved through the period under discussion: The school of the calotype which emphasized massiveness, weight, solidity and the structural function of stone; the school of the wet-plate with its exquisite rendering of detail; and the fin-de-siecle school which, with a romantic-impressionistic interest in light and atmosphere, brought space and volume and an illusion of third dimension to architectural photography.

This article is based on an exhibition of original prints in the George Eastman House Collection, opened on August 18, 1958, on the occasion of the visit of the Society of Architectural Historians.

A SURVEY OF APPROACHES AND TECHNIQUES

Architectural Photographs



C. S. S. DICKINS: Gordon Castle. Calotype, 5 x 11¼ in., 1854.

THROUGHOUT THE 19th CENTURY, architecture was a constant challenge to the photographer. Daguerreotypists, calotypists, and those who used glass plates, pointed their cameras at buildings the world over. They worked with varying purpose: sometimes only to test their sensitive materials, more often to achieve an artistic interpretation of the great monuments of the past.

Of the significant 19th century architectural photographs, the finest are those made in the 1850s by the calotype or talbotype process (named after the inventor William Henry Fox Talbot, 1800-1877). This process procured splendid representations and set exceptionally high standards in the field. Practitioners of the later wet- and dry-plate processes had to establish new artistic standards of their own.

At the beginning of photographic experimentation, buildings were selected as stationary objects on which to train the camera for test exposures; many of Fox Talbot's photographs of buildings are no more than this. But as early as 1839 photographers traveled with their cumbersome daguerrean outfits from Europe to America and the Near East, photographing views and monuments. Unfortunately, only a few of the daguerreotypes which they brought back are now preserved. They are precious for their finely detailed silvery image, but they are hard to view because of the glare of the highly polished silvered plate.*

The daguerreotype photographer depended on lenses which were corrected for chromatic aberration, but suffered oblique aberrations and distortion. The angle of field was narrow (25 degrees), and the widest aperture was only $f/15$. Exposures, made by removing and replacing the lens cap, lasted from minutes upwards to an hour, so that accidental movement left a blur on the sensitized plate. Cameras were

*When copied and enlarged, details impossible to detect in the original come out. Blurred areas around the border are due to poorly corrected lenses then in use.

composed of two telescoping boxes, hard to focus accurately and attached to a heavy tripod.

Little comment by pioneer daguerreotypists about architectural photography has survived, for photographic journals did not appear until the 1850s. There was more interest in portraiture which was lucrative and less back-breaking.

Fox Talbot's calotype process was perfected in France to such an extent that by 1852 photographers had a certain freedom from worry over technique. There is a tendency among photo-historians to discuss the paper negative as one single complex. Yet no other process before or after has undergone an equal amount of modifications. There were almost as many working formulae as there were serious practitioners of the process. The goal was the same: greater ease in handling, and the recording of fine detail by rendering the paper more nearly transparent, so that the texture of the fibers of the paper negative would not be reproduced in the print along with the image.

Originally the paper for calotype negatives was used wet in the camera. However, various photographers perfected a "dry" process which allowed preparation of the paper in advance. Much of the preference given to the calotype for architectural photography is due to this development. Photographers soon devised formulae for organic substances as vehicles for light-sensitive salts which, simultaneously, were "fillers" for the pores of the paper. In this Gustave LeGray was most successful: his wax-paper process yielded highly transparent negatives in which the paper fibre was greatly minimized.¹ This was perhaps the most important improvement of the calotype, particularly since the wax-paper process proved to be easy to handle. "Its execution is so easy," LeGray reported to the Academie des Sciences in December 1851 "that . . . I have often made as many as 25 to 30 negatives during one day."

Yet, the calotypist's work was not easy. At this time photographers were self-made practitioners recruited from a variety of professions. Still inventing techniques, they had not arrived at a definite terminology in which to think and to discuss their work. Standards by which to judge did not exist. Since many of these photographers were painters, they aimed unconsciously at an emulation of this medium.

In 1851 the French Government made use of photography in an official manner: an agency, the Commission des Monuments Historiques,

concerned with the preservation of ancient buildings, assigned five photographers to do a thorough survey of its architectural monuments. Hippolyte Bayard, Edouard Baldus, Gustave LeGray, Henry LeSecq and Mestral were sent into different parts of the country.²

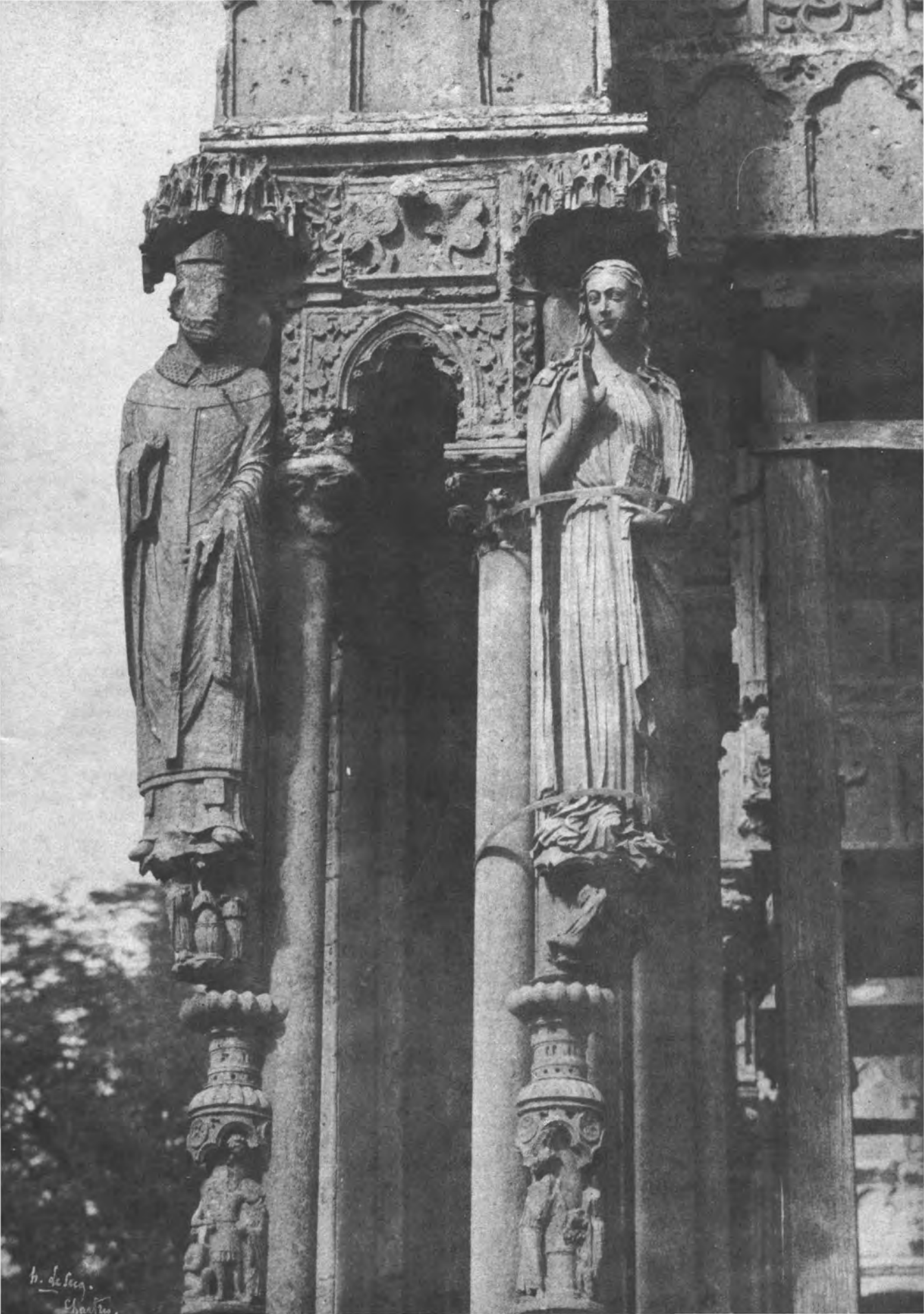
The photographic world was enthusiastic over this assignment for here was official proof that photography, and photography only, could give a realistic account of France's great treasures. The response to the work brought back by these photographers was even greater.

Critics as well as photographers saw the prints at meetings of the Société Héliographique, at exhibitions, and on their visits to the artists' studios. *La Lumière* printed praise as well as censure. LeSecq's work, largest in volume and also the finest of the group, inspired Henri de Lecratelle to a poetic appraisal of architectural photography: "In over one hundred photographs he has made a report of the cathedrals of Strasbourg and Reims, stone by stone. What we have never seen with our own eyes, he has seen for us by setting up his camera at all heights from which the cathedrals are visible. Thus he has made one of the most interesting and complete archaeological studies that we can imagine. One might say that the artist-saints of the Middle Ages previsualized the daguerreotype in placing their statues and stone carvings . . . at heights where only the birds in flight can see them . . . The entire cathedral is reconstructed, stone by stone, with marvellous effects of sun, shade, and rain. M. LeSecq himself has constructed a monument."³

These French photographers worked on large calotype negatives from which they made contact prints in a variety of brown tones. They preferred close-ups and medium shots. Viewpoint and lighting were carefully selected. We marvel at these early photographs, consider them primitive art of great perfection. But the photographers' methods were not primitive: they corrected the "marvellous but unintelligent work of the camera" by chemical means, intensification and reduction. They controlled outdoor lighting contrast by making two exposures for each negative: one long exposure for the shadows while the sun was hidden behind a cloud; one short exposure for the highlights during sunlight.*

Their master and instructor in these methods

*The extreme blue sensitivity of the calotype material made it impossible to record the sky other than white.



St. de laug.
Château.

was Louis-Désiré Blanquart-Evrard who not only provided photographers with directions for taking architectural photographs, but also acted as their first printer.⁴ His bulk printing and publishing helped disseminate the photographers' work and with it knowledge about the architecture of France, Europe, the Near and Middle East.

The cultured world yearned for knowledge of antiquity, of the sites of the great past, especially the Holy Land. Possessed of this knowledge through the accuracy of the photographic image, they gave expression to it in the architectural "revivals" of the time. It is true, Greek and Gothic Revival edifices, adaptations and imitations of these and other styles, sprang up in Europe and America before the invention of photography. But indubitably this movement was aided later by photography.

Moreover, photographers themselves, who at this time appeared to be less concerned with monetary returns than with the development of the art, were intensely interested in architecture. They revered the monuments which they photographed, were obsessed with securing "true" photographic representation. With great modesty they aimed at depicting intrinsic qualities. Their photographs are faithful to the medium, in the most rigorous application of the term.

Among the best French photographers was Maxime DuCamp (1822-1894), a wealthy dilettante concerned with the architecture and sites of the past. A writer by profession, he acquired a knowledge of photography for use on his travels. He mastered the skill quickly and was able to work under the most trying circumstances. Between 1849 and 1851 he traveled in the Middle East under the auspices of the French Government, making 200 calotype negatives. His work is somewhat in the tradition of the travel books of the time, since he combined architectural photographs with general views. To these he added close-ups of archaeological detail. His work shows great perfection, never a sign of hesitation or experimentation, although much of the success may be ascribed to Blanquart-Evrard who made the prints from his negatives in his *Imprimerie Photographique*. His publication, *Egypte, Nubie, Palestine et Syrie* (Paris: Gide et Baudry, 1852) is a pioneer work. Although he was not the only photographer at the time to make such an extensive record of the Near East, his is the first travel book illustrated with actual photographic prints, pasted by



hand in between the printed pages.

In the early 1850s interest shifted from Greece to the Near and Middle East. This may account for the relative scarcity of good Greek calotype views. However, the Englishman, John Shaw Smith (1811-1873) included Greece in his grand tour between 1850 and 1852 from which he returned with 300 excellent calotype negatives. Why did these remain unpublished? Perhaps Talbot's patent restrictions, still valid in England, made publication prohibitive. But these, like many other early architectural negatives, could be printed even now and would be of great value, particularly because Smith carefully noted the location and date of each negative.

Equally well documented are a group of calotype negatives and positives, mostly of Roman subjects, in the collection of George Eastman House which, after comparison of the handwriting with that on some other English calotypes, could easily be ascribed to C. S. S. Dickens and appear to have been taken after 1852. Little is known about this photographer, but it may be assumed that he was acquainted with the group of predominantly English photographers who established themselves in the 1850s in Rome. Among them are James Ander-



FROM A GROUP of calotype negatives and prints, possibly by C. S. S. Dickins, about 1852. These are especially remarkable for their detailed documentation. The location of each building photographed is marked on a panorama of Rome and each photograph in turn is provided with detailed documentation amounting almost to a history of the monument.

son (1813-1877), Robert MacPherson (?-1872) and the Count Flachéron, all of whom made splendid Roman views. Although these photographers may have started their careers with the calotype (used wet in the camera as the hot climate necessitated), they worked later with glass negatives.

It seems that it was with this Roman group of photographers that an important new photographic industry began: the publishing and selling of prints to collectors. The English gentry who used to spend their winters in the pleasant climate of Italy, were the first to request such services. But as travel spread to the middle class, prints of city views and architecture were sold in great quantities. The business was firmly established by 1855. Each town boasting of tourist attractions had its own photographer. Some of these local photographers became well known: The firm of Anderson of Rome, started around 1850, and the Fratelli Alinari of Florence, founded in 1854, are still in existence and familiar to travelers.

Since, with the exception of Blanquart-Evrard's still secret printing process, quantity printing was not feasible during the calotype period, collecting was still limited. Only occasionally do calotypes adorn tourist albums. Most

of the prints in these are on albumen paper, and they were made from glass collodion negatives which, from 1851 on, rapidly became the favorite negative material.* The sharpness of the image on glass was greatly admired. It seems that all the advantages of the daguerreotype and those of the negative-positive talbotype (calotype) process were here combined to give photography ultimate perfection. Still criticism was heard: some felt the sharpness of the glass negative was "unartistic." It was the "sharp" versus "pictorial" controversy which raged into the 20th century. And when we look at very early albumenized prints made from glass negatives we can understand the criticism. The prints are unpleasantly yellow; objects are sharply outlined but do not give an illusion of depth. Architectural photographs of this time are informative, but with few exceptions uninspiring.

In France the best architectural work during this period of readjustment to a new technique was done by Baldus, who earlier worked with his own modification of the calotype, a gelatinized negative paper which yielded relatively sharp images, and by Bisson Frères. The latter

*The collodion process also made stereoscopic photography a practical technique. This important phase of architectural photography lies outside the scope of the present article.



MARVILLE WORKED as an architectural photographer over a relatively long period. In the 1850s he photographed religious edifices for Blanquart-Evrard, in 1865 we find him documenting the streets of Paris before the great changes of this city effected by the plans of Napoleon III and Baron Haussman.

did perhaps the better work of the two firms. In their earlier career they had been daguerreotype portraitists and to the knowledge of this writer never worked with the calotype. Thus they were conditioned to the aesthetics of the minutely sharp image. For them it was only a question of converting to new materials.

It is interesting to note that LeSecq, the most outstanding French architectural calotypist, discontinued his work at this time. There was, generally speaking, a let-down by French photographers from earlier enthusiasm. Photographers began to exhibit their earlier work, organized it in portfolios, but did not add anything new. At exhibitions Baldus and Bisson Frères showed prints of extreme dimensions, unaware that the new process on glass did not lend itself readily to the representation of mass and volume.

A radical change of approach was introduced by the Scotsman George Washington Wilson

(1823-1893), a prolific professional photographer of very high standards of the 1860s who specialized in architecture, street and city views and picturesque country sites. He was the most skillful worker of the wet-plate, exploiting what is usually considered its great drawback: an extremely high sensitivity to the blue band of the spectrum. By depicting infinite detail in the shadows Wilson demonstrated, along with contemporary painters (probably unknown to him) that these are primarily composed of blue light. He maintained the shadow detail by a masterful balance of exposure and development. Since the material had high antihalation qualities, he was able to expose for the shadows without altogether losing the highlight detail. His interior views of cathedrals are unexcelled in their fine balance of light and shade and in their jewel-like detail.

No other photographic process has proved so capable of recording such fine detail as the col-



J. VALENTINE: Fountains Abbey, 186? Wet-collodion negative, albumen print. 5 x 8 inches.

BRITISH PHOTOGRAPHERS liked to include the countryside in their architectural photographs. They often took long and medium shots as well as close-ups and approached their subjects from various angles.



lodian wet-plate. The extremely thin emulsion base on a clear glass carrier coupled with excellent gradation qualities of the silver-iodide (ability to distinguish closely related tone values) make the wet-plate outstanding in this regard. Wilson was able to retain this quality in his albumen contact prints, making the exquisite detail of his views their salient esthetic value.

George Washington Wilson has been discussed here out of chronology, jumping from about 1855 to 1860, in order to acquaint the reader with the esthetics of the wet-collodion process. However, the preference given by this writer to Wilson does not exclude an appreciation of the important work by other British photographers done before 1860. One of these, Francis Frith (1822-1898) is most highly recognized. Between 1856 and 1859 Frith made three extensive trips which took him to Egypt,



FRANCIS FRITH: The Pyramids of Dahshoor, from the Southwest. Wet-collodion negative, albumen print. 15 x 19 in.

FROM *Egypt, Sinai, and Jerusalem*: A series of twenty photographic views. With descriptions by Mrs. Poole and Reginald Stuart Poole. London: William Mackenzie, [1858].



JOHN SHAW SMITH: Tombs and Mosque at Cairo. Calotype negative 6½ x 8½ inches. November 1851.

Palestine and Syria. He distinguished himself as the first photographer who traveled beyond the Fifth Cataract. He worked in the manner of Maxime DuCamp and the earlier established form of travel books, taking general views, architectural long shots and some close-ups of archaeological details.

Frith made his trips in order to sell the photographs to collectors directly or through a publisher. Later his print sellers Negretti and Zamba commissioned his work. Frith capitalized on the insatiable thirst for the unbiased documents that the camera would bring back from foreign lands. Outfitted with two view cameras, one for 16 x 20, and one for 8 x 10 plates, as well as a stereo camera, he performed the arduous task of all traveling photographers of his time, carrying a complete darkroom with materials and equipment for negative coating, sensitizing and developing.

Frith did his finest work during the early years of his career. His *Egypt, Sinai and Palestine* belongs among the most prized possessions of collectors.⁵ His 15 x 19 inch prints are effective through size, reflecting the colossal architecture of Egypt as well as wide open spaces. Frith's photographs are striking, yet they are

somewhat cold with their strong contrast, bare skies and shiny print surface. One cannot help feeling that calotype prints of the same views would give a more sympathetic interpretation. The artistic tradition of the calotype could not be carried over into the new technique of wet-collodion.

Architectural photographers traveled all over the world. Francis Bedford made the "grand tour" and visited the Mediterranean, James Robertson of Constantinople photographed architecture in India, Canton and China, often working with his partner F. Beato. Désiré Charney went to Mexico. Louis de Clercq, who made the eastern Mediterranean tour, worked in Spain where Charles Clifford also made fine architectural photographs. Earlier (1852) Roger Fenton, besides working in England, made architectural calotypes in Russia.

In Scotland, G. W. Wilson was building up his series of over 1700 "views." The rage for travel pictures, taken and sold by professional photographers, lasted into the 1880s. Tourists bought photographs wherever they visited in their own country and abroad. These they pasted in albums which were often elaborately bound, identified them where the photographer



BISSON FRERES: Ypres, Guild Hall. Wet-collodion negative, albumen print. 12 $\frac{7}{8}$ x 17 $\frac{3}{8}$. 1852.



GEORGE WASHINGTON WILSON: Edinburgh, Sir Walter Scott's Monument. Wet-plate, albumen print, about 4 x 3 in. From *Photographs of English and Scottish Scenery*. Edinburgh. 12 views. London: A. Marion, Son, and Co., 1868.

DURING THE 1860s we find often that the title of a photograph suggests an architectural view, while actually the instantaneous aspect of the scene dominates the photograph. (For other G. W. W. photographs see IMAGE, V, December 1956, pp. 220-229.)

BELOW: Albumen print 4½ x 7½ inches. 186-?

DETAIL, brought out by the inherent sharpness of the process, is emphasized almost to the exclusion of space and volume.

had failed to do so and added personal notes. Collector's albums show a distinct interest in fine architectural photographs, particularly of cathedrals and churches. "G. W. W.," James Valentine (1815-1880, "J. V.") and Francis Frith were the primary suppliers in England. They all worked in the same manner: prints up to 7 x 11 inches, deep brown in tone on tissue thin highly burnished albumen paper, with identification of subject, negative number and photographer's name or initials printed in. Of the three, G. W. W. did the finest work, J. V. following closely behind. Francis Frith in his "Frith Series" of England and the Continent never achieved the quality of his earlier work.

At this time improvements had been made in equipment and printing methods. Photographers had view cameras of various sizes with pleated leather bellows and collapsible beds. Long bellows extensions accommodated lenses of various focal lengths. Collapsible tripods were standard equipment for outdoors. In 1866 orthoscopic lenses were superseded by lenses of the Rapid Rectilinear or Aplanat type. These lenses were corrected for all but oblique aberrations, notably astigmatism. The architectural photographer could also employ especially designed wide angle lenses, the latter operating at very small diaphragm openings.

Exposures for architecture were so long that accurately timed shutters were not required. In





FREDERICK H. EVANS: York Minster, sculpture in Chapter House. Dry-plate, platinum print, $7\frac{1}{2} \times 9\frac{1}{2}$ in. About 1900.

DETAIL IS given volume and space through the use of carefully selected daylight.

fact, equipment, lenses and photo materials were entirely sufficient for architectural photography. Correction of astigmatism of lenses in 1889 was not essential for architectural photography until the advent of color photography. Exposure calculators and, later, extinction meters took some of the guesswork out of exposures.

A great bonus to the professional photographer was albumen printing-out paper. He could buy paper albumenized in advance which he only had to sensitize. Printing was carried out by hired people who were not trained photographers. Wilson as well as Frith built up huge printing establishments from which they issued thousands of prints, stereos and lantern slides without ever working on them in person. They were free to go out in the field to take photographs: architecture, views and the newly admired "instantaneous" photographs.

Instantaneous views, first taken with the pho-

tographer's "miniature," the stereoscopic camera, later also on full-size plates, were the rage of the 1860s and 1870s. So much were they admired, that they all but extinguished interest in architectural photography. Certainly photographers concentrated more and more on this kind of work, which they soon mastered admirably. When critics began to condemn views without people, calling them "cities of the dead" photographers were moved to reevaluate their subject matter.⁶

Beginning about 1870 the entire trend in photography moved toward mastering action. The wet-collodion process had shortened exposures from minutes to seconds; with the invention of the dry-plate by Richard Leach Maddox in 1871 they were reduced still further to split seconds. Soon pocket cameras aided this development. The tourist began to "take" his own views.

There is no doubt in the mind of this writer

that both the instantaneous views which the professional photographers sold, and the beginning of "tourist" photography, as it was called, seriously undermined 19th century architectural photography. With the perfection of the Kodak and roll film in 1888 interest shifted to snapshots.

However, a return to earlier principles was effected by a group of serious amateurs to whom photography was a fine art: in England the "Linked Ring," born out of opposition to the academicism of the Royal Photographic Society, in this country the group around Alfred Stieglitz who later became the Secessionists, and similar groups on the Continent.

Among the English there was Frederick H. Evans (1855-1943), an amateur who favored cathedrals.⁷ Evans studied them, observing the light in and around them until he knew the exact hour at which it modulated the space to perfection, cloistering himself until he responded to their spirit.

Evans worked with long focus lenses which he felt most adequately expressed a sense of perspective. He believed in the pure, unmanipulated negative image which he printed on platinum paper thus selecting the positive printing

process which affords the longest tonal scale. When Evans called his interior photograph of Bourges Cathedral "Height and Light in Bourges Cathedral" he made a clear statement of his approach. And his statement summarizes his contribution to architectural photography: space and volume had never been expressed as convincingly before.

With Evans 19th century architectural photography attained maturity.

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WITH SNAPSHOT CAMERAS, amateurs in their travels occasionally took photographs of architecture which have value and charm. Taken with No. 2 Kodak camera, 3 5/8 in. diameter, about 1890.



COLEMAN SELLERS

by Charles Coleman Sellers

The author, a grandson of Coleman Sellers, looks back through his family history with a slightly weary wonderment, "We have dedicated ourselves with such ardor to so many causes. We have been Quakers, Fourierites, Swedenborgians, rebels and revolutionaries, contrivers, tinkers and inventors. There has been some inner compulsion to solve immediately every problem that might come to notice, great or small. Coleman Sellers achieved higher fame in that he concentrated upon problems related in one way or another to a central interest in mechanical engineering. Everything else, including photography, was related in one way or another to that."

COLEMAN SELLERS is described in Robert Taft's *Photography and the American Scene* as "the most energetic amateur of his day." That characteristic energy may be traced to his grandfather, Charles Wilson Peale, whose long life was filled with constant, probing activity in the fields of art and science, who produced well over a thousand paintings and a museum of natural history with many times that number of exhibits. There is a curious parallel also in the fact that Sellers patented, February 5, 1861, his "kinematoscope," in which photographs were first shown in motion and the Greek word first applied to the process, and that Peale in 1785-1786 had shown paintings in motion, to which the name "moving pictures" had been applied. Peale's show was a reconstruction from descriptions he had heard of the "eidophusikon" created in London in 1781 by Philip de Louth-

erbourg, David Garrick's scene painter, though he did, in his final piece, go beyond Philip de Louthembourg and carry out a sequence with dramatic action, the battle between the *Bonhomme Richard* and the *Serapis*.

Coleman Sellers was born on January 28, 1827. He was a sickly boy, and his father, a Philadelphia manufacturer of paper-making equipment, fire engines and locomotives, sent him to the country to learn to be a farmer, hoping thus to build up his health. This was in his sixteenth year. Early rising was the first problem he encountered. Studying the matter, he found that the horse trough near the farm house, fed by a spring, would, if emptied at the right hour of the evening, fill up again at dawn. He secretly rigged a waterwheel at the overflow, attached this to a cow bell outside his window and retired to rest, sure that he could never

again be punished for failure to appear on time. While he slept, a violent storm of rain swept over and a family of neighbors took refuge in the house for the night, and then, when all at last was quiet, the bell began to ring, arousing everyone but the weary boy. In the next year he lightened his labors by inventing a hay rake, anticipating that which soon after came into general use. He was, in short, miscast as a farmer, and we find him at nineteen and in his twenties working as surveyor and draftsman. At the time of his marriage in 1851 he became foreman, later superintendent, with Niles and Company, locomotive builders in Cincinnati. In 1856, he returned to Philadelphia to take charge of the drafting room of William Sellers and Company, manufacturers of machine tools.

In 1858, he determined that photographs would provide more effective promotional material for his company than drawings. Professional photographers failed to produce satisfactory results, and he therefore hired one of them instead as his teacher, determined to master the process and carry it forward himself in the direction in which he was interested. Taft suggests that the professionals had failed "because the lenses employed were of short focal length, and used with large aperture, which resulted either in badly distorted pictures, or in pictures which lacked sufficient depth of focus." He goes on to relate how Sellers "soon acquired consid-

erable skill, and had a dark room prepared as part of the drafting room equipment of William Sellers and Company . . . By using the 'globe' lens devised by C. C. Harrison, the foremost American lens maker of the period, he was able to obtain really remarkable photographs of machinery, which were used extensively in advertising. Usually these were stereographic views, as the stereoscopic effect added considerably to the attractiveness of such pictures. So successful were Sellers' efforts that the Baldwin Locomotive Works asked his aid in preparing similar photographs of their huge wares."

The next objective was to show his machinery both in three dimensions and in motion, and this search led to the "kinematoscope" of 1861. The device is, in brief, a stereoscope in which a limited number of stereographs are mounted on the blades of a paddle wheel, and come successively into view as the wheel is turned. A simple, repetitive movement can be shown without break. The original model, now in the museum of the Franklin Institute at Philadelphia, is equipped with sequences showing the inventor's wife fanning herself, his little daughter rocking in her chair, his small son driving a nail. Three to six pictures were required. For more complex sequences the inventor suggested the use of photographs mounted on an endless chain, and an attempt was later made to commercialize a stereoscopic viewer of this sort.





Meanwhile, from 1861 until 1863, the Amateur Photographic Exchange Club ran its lively course, the ancestor of all latter-day camera clubs. Coleman Sellers was one of the most enthusiastic of this small band of enthusiasts. All were profoundly aware of the importance of their subject and of the tremendous advances in technique and new application lying within reach. The professionals of the day, busy with portrait work, had not the time and means for research. These amateurs were dedicated to that, pushing forward progress from the collodion process to the dry plate and in other areas. They were brightly aware too of the dramatic novelty of what they were doing. Such a society would not have been possible without photography. It held no meetings and had no constitution or formal rules beyond those governing the regular exchange of prints, and yet, through the prints, its members became personally and warmly acquainted with one another. The members themselves were an oddly assorted lot. H. J. Haight was a teen-age deaf mute, and Constant Guillou an elderly Cuban with a dangerous temper. Lewis Morris Rutherford, Columbia University astronomer, was pioneering in photographic sky maps and telescopic photography, Dr. John Dean developing micro-photography as an aid to the study of the nervous system, and Eugene Borda leading the battle for the dry plate against the wet with the same fervor with which he had fought as a revolutionist at the Paris barricades. The Club had

twenty-three members in its heyday.

Coleman Sellers became Chief Engineer of his firm in 1873. In 1886 he resigned to begin independent practice as a consulting engineer, and with it the most active and memorable of his years. The culmination of his career was as Chief Engineer of the first great power development at Niagara Falls, and member of the International Niagara Commission of which Lord Kelvin was President. It was over Lord Kelvin's vigorous protest that he adopted the use of alternating current, the value of which had then only been demonstrated on a very small scale. These matters, reinforced by a long record of other accomplishment, had made him the most eminent engineer in America at the time of his death, December 28, 1907. But he is remembered now for things to which contemporaries gave relatively small acclaim — the standardization of screw threads, the use of alternating current, the use of absorbent cotton for surgical purposes, the "kinematoscope." To the writer, he is remembered as a slightly stooped old man with a close-cut white beard and a magical faculty both for presenting a wonder and for explaining it — living in a huge old Philadelphia house every room of which was filled with mechanical marvels. The photographic equipment was in an attic chamber there, seemingly masses of it, formidable cases and bellows, the leather a little powdery, the big lenses staring back as if sharing one's own amazement at it all.

WAY DOWN EAST

1920. Produced in USA by D. W. Griffith. Released through United Artists. Directed by D. W. Griffith. With Lillian Gish, Richard Barthelmess, Lowell Sherman, Burr McIntosh, Kate Bruce, Vivia Ogden, Mary Hay, Creighton Hale, Emily Fitzroy. Photography: G. W. Bitzer, Hendrik Sartov. 11 reels, 35mm negative.



When D. W. Griffith purchased the film rights to the old stage melodrama *WAY DOWN EAST*, they cost him \$175,000, a figure widely publicized at the time as "the highest price ever paid for the photoplay rights to any story or play." In spite of some skepticism — even on the part of his devoted actors — that the material was out-of-date, he entered upon production in January, 1920, and completed his film the following September. The total bill came to more than \$800,000, which, as the souvenir program for the first performances explained, was "perhaps the most expensive entertainment since Caesar plated the arena with silver for the citizens of ancient Rome."

The souvenir program also states that *WAY DOWN EAST*, "A Simple Story of Plain People," has been "elaborated by Mr. Griffith" from the stage play. Griffith's most important alteration produced the magnificent sequence at the end of the film where the heroine *Anna Moore* (Lillian Gish), driven from the farmhouse when it is discovered that although unmarried she has given birth to a child, struggles through a blizzard and sinks exhausted on the frozen river. During the same night the ice breaks up, and a large cake bearing the prostrate *Anna* moves down the river toward the falls. In the meantime the young hero (Richard Barthelmess) sets out from the shore, jumping from cake to cake, to reach her in time.

It is typical of Griffith's filmic imagination that this episode should have occurred to him. Whereas the play of *WAY DOWN EAST* had been content with a fight in the sugar house at the climax, and the rescue of *Anna Moore* from a snowbank, the film bursts at this point into an exciting visual and emotional experience which still harries its audience into a state of acute anxiety. Griffith inter-cutting and "last-minute rescue" techniques are perfectly illustrated.

Some of the texture of the play is disconcertingly apparent. There is no attempt to mute the tedious comic relief which discouraged reviewers even when the play was new to the New York stage (1898). The excesses which the clown characters display undoubtedly have the sanction of the 4,000 subsequent performances of the play. But the fact that the disclosure of the crucial information about *Anna's* past is given to the clown whose antics are the most exaggerated of all nearly wrecks the strange power of the final episodes to convince.

Every time Lillian Gish appears upon the screen, however, the spectator feels the truth of the situation, and the plot becomes no more important than the plot of one of Shakespeare's later comedies. Her acting evoked an overwhelmed letter from John Barrymore who wrote that for him she surpassed Duse and Bernhardt. Today's spectator, too, is defenceless against her appeal. She is beautifully partnered by Richard Barthelmess as the wholesome *David Bartlett*. Even Lowell Sherman is effective in the stereotyped role of the suave playboy who tricks *Anna* into a mock marriage.

WAY DOWN EAST was elaborately presented on Broadway with the production divided into two parts, and a theatre intermission of five minutes. Sophisticated New York attended in droves, issuing each time a "shout of delight . . . [over the] sensational rescue," oblivious that Griffith had given the semblance of reality to the sequence through combining scenes in which he had both subjected his



actors to an actual blizzard, and aided them with summer-time film-making in which the "ice cakes" were wooden, manipulated by piano wire. The roaring falls that appear about to claim the heroine were actually safely distant Niagara.

It is unfortunate that the black-and-white print gives no indication of the tinting in an original release print — principally the dark blue in the stormy finale.

Even *Life*, comic forerunner of the magazine bearing the same name today, conceded in a thumbnail review with terminology which strongly suggests the late Robert Benchley must have been reporting: "Ye hain't done right by our Nell," in a great many reels. Probably the most successful movie ever produced."

In *WAY DOWN EAST* some of the best of D. W. Griffith rescues some of the worst.

BOOK REVIEW

ONCE UPON A CITY; NEW YORK FROM 1890 TO 1910, as photographed by Byron and described by Grace M. Mayer. With a foreword by Edward Steichen. New York, The Macmillan Company, 1958. xiii, 511 pp. 224 illust. \$15.00

Between 1888 and 1942 the photographic establishment known by the simple, single name of Byron took hundreds of thousands of photographs of New York City, showing in remarkable detail its buildings, streets, parks, and its people — overprivileged, average and underprivileged — seemingly in their every endeavor and accomplishment. It was a family affair: Joseph Byron, grandson of the founder of the firm in London, came to America in 1888. His son, Percy C. took over the business at his father's death and continued it until 1942. His brothers and sisters, their husbands and their children, all worked as cameramen or in the studio.

A collection of 10,000 Byron negatives and prints was given to the Museum of the City of New York by Percy C. Byron in 1942, and from this treasure Miss Grace M. Mayer, the museum's Curator of Prints, has selected 224 prints which are currently on display at the Museum, and which form the illustrations of a thick, quarto volume entitled *Once Upon a City*.

To accompany the photographs, Miss Mayer has written essays. They are excursions into the photographs, supported by meticulous research and written with imagination and wit. By the device of frequent quotations, we are led to

look at the photographs as contemporaries might have looked at the now-vanished scenes themselves, and in these brilliant essays we can feel the very life-throb of New York City during the two crowded decades which spanned the turn of the century.

Of one picture, a view of Broadway looking North from 34th St., Miss Mayer writes, "It would be possible to write an entire book without leaving the frame of this photograph." We can well believe her, so sharp is her eye, so thorough her research, and so rich her imagination in finding apt quotations and distilling information about what is revealed by the Byron lens. Her essays are photo-interpretations, in which the information squeezed from the image is enlivened with appreciation and more than a little feeling for the nostalgia of the past which the camera can so effectively evoke.

Take, for example, the picture reproduced here: "Madison Square, 1901." At first glance it is merely a charming picture. But after reading Miss Mayer's essay, the reader will view the photograph with a quite different eye — one attuned to 1901. We learn that silk stockings had just been introduced, and that they were on sale at Arnold Constable & Co. We learn the titles of the best-selling novel, plays featured on Broadway, popular tunes. We learn what it was like to be driven in one of those hansom cabs pictured in the photograph. ("You are not even an occupant; you are contents. You are a cargo at sea," wrote O. Henry.) The end of Miss Mayer's essay brings us back full circle to the



MADISON SQUARE, 1901.

two lady pedestrians. We are told, on the authority of the *New York Herald* for May 5, 1901, that a lady, when entering a hansom, should take her seat nearest the curb and her escort should climb in front of her to take his place on the far side.

We travel with the Byron camera to the palaces of the rich and the homes of the poor with equal objectivity. On January 31, 1905, the Byrons made 189 11 x 14 inch glass negatives between 8 P.M. and 6 A.M. of the fancy dress ball given by James Hazen Hyde at Sherry's. The camera crew dressed in black robes and worked in an improvised studio fitted with Cooper-Hewitt lamps, next to the ballroom. One of the strangest of the photographs in the entire group of these "Annals of a Satiated Society" shows the Horseback Dinner at Sherry's in 1903, where each guest was seated astride a horse. Tables were fastened to the saddles, and the waiters were dressed as grooms.

In contrast to this record of extravagance, there are unforgettable pictures of immigrants which rival the perceptive camera of Lewis Hine. Byron's "Steerage" was taken in 1893 on the deck of a liner, showing passengers huddled beneath blankets. Miss Mayer puts with it a facsimile of the original manuscript, now in the Museum of the City of New York, of the famous lines by Emma Lazarus now inscribed upon the base of the Statue of Liberty.

The Byrons specialized in theatrical photography. "The Stage is My Studio," imprinted upon the Byron letterhead, became a slogan and identified — to the confusion of photographic historians — the collective work of the concern with a single individual. "Lord Byron," Sarah Bernhardt called this collective individual, and insisted that no one else should take her photograph in America, so pleased was she with the photographs Joseph Byron took of the play *Izyl* in the quarter-hour which the celebrated French actress had grudgingly allowed him.

Miss Mayer gives us a detailed description of how stage photographs were taken in the days before high-speed film, wide-aperture lenses and electric flashlight. The Byrons would arrive for the dress rehearsal. Byron *père* would note the most photogenic of the scenes as they were played. Then — when all the players were in no mood to continue — he and his assistant set up their big view cameras and unpacked their flash guns and explosive flash powder. They worked through the play from the last act to the first,

thus leaving the stage ready for the next performance. Between each exposure, the company had to wait until the smoke from the blinding flash had died down. They did not limit themselves to Broadway: Percy C. Byron told Miss Mayer that he and his assistant traveled "hundreds of thousands of miles" to record over 1,000 shows in advance of the New York première.

The average New Yorker is represented as well as the overprivileged, the underprivileged, and the spectacular world of the theatre. Tradesmen, workmen, professionals are all here, from the attendants of a Turkish bath to surgeons in the operating room, from billstickers to famous painters, from cooks to engineers. We see them at work and at play. If you want to know about the bicycle craze, the Byron camera will show you and Miss Mayer will tell you full details. Byron has anticipated the modern "photo essay" by giving us shots of a happy group of bathers at Far Rockaway beach before and after plunging into the breakers. Miss Mayer puts them into perspective by quoting the indignation of a writer in the *Illustrated American* of August 20, 1892: "The bathing suit and the camera — these are the twin betrayers of our innate savagery . . . Rot seize your Kodak! A murrain on your films!"

The Byrons worked during the classic days of the large view camera. Their contact prints from the glass plates were rich in tone and replete with detail. If their work seldom reaches the high plateau of such contemporaries as Stieglitz, Steichen or Atget, it is consistent in its craftsmanship and its insistence upon that clarity of detail upon which the informational value of their photographs depends. It is disappointing, therefore, to point out that the quality of the reproductions in this otherwise handsome volume does not do justice to the originals.

The book is indispensable to the historian. To those who love New York City and photography, it is a delight. As Edward Steichen has written in his Foreword, "The events and locations, the things and the people that have been recorded with this brassy impersonal kind of realism, here and now vividly evoke a nostalgia mixed with fun and frolick, contempt and laughter and these so often tied up into a bundle of deep affection for a time and a place from where we have emerged and where so much of us still lingers."

BEAUMONT NEWHALL

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